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Cooperative Extension Work in Agriculture and Home Economics

United States Department of Agriculture and State
Agricultural Colleges Cooperating

COUNTY-AGENT WORK

STATUS AND RESULTS OF
COUNTY-AGENT WORK
NORTHERN AND WESTERN STATES
1917-18

W. A. LLOYD

In Charge of County-Agent Work

"County agents, joint officers of the Department of Agriculture and of the colleges, are everywhere cooperating with the farmers and assisting them. The number of extension workers under the Smith-Lever Act and under the recent emergency legislation has grown to 5,500 men and women working regularly in the various communities and taking to the farmer the latest scientific and practical information. Alongside these great public agencies stand the very effective voluntary organizations among the farmers themselves, which are more and more learning the best methods of cooperation and the best methods of putting to practical use the assistance derived from governmental sources."
—*From President Wilson's Message to Farmers' Conference at Urbana, Ill., January 31, 1918.*

CIRCULAR 16

Office of Extension Work North and West
States Relations Service

WHAT SOME FARMERS THINK OF THE COUNTY AGENT AND HIS WORK

"There are a good many things that we have that we don't need, but we need the county agents."—A. O. Lamoreaux, of Arizona.

"Farming is no longer a blundering job. It is growing into a science. To succeed, organization, method, system, and scientific knowledge are needed. These * * * are made possible by the right kind of a county agent. He is there, a trained, skilled man, in personal touch with the farmer, to help solve the thousand and one farm problems as they come up, and has at his beck and call the scientific men of this great country."—W. H. Harvey, of California.

"It seems preposterous to me now to try and solve all my own problems independent of others and most wise and helpful to work them out in cooperation with others. It is exhilarating to feel that the whole county is one great farm and that we are developing together for mutual profit."—C. L. Hoover, of Colorado.

"I do not think that the county agent gets credit for nearly all the good he does the farmers of the county. He may get one man out of a dozen to put in tile drainage, fertilize a field scientifically, plant improved varieties of seed, breed better stock, or do any of the many things he advocates to improve the farm. A good share of the other eleven men will follow the lead of the other man when they see him raising better crops and stock. They have not attended the agent's schools or demonstrations and in all probability have made fun of them, yet they are profiting by his teachings."—Geo. H. Wallis, of Michigan.

"The county agent is the man who is always on the job and never has a grouch."—H. R. Armeling, of Wyoming.

[There are on file in the Office of Extension Work North and West more than 2,000 letters from farmers telling just how the county agent has helped them in solving their farm problems.]

COUNTY-AGENT WORK IN THE NORTHERN AND WESTERN STATES, 1917-18

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DEVELOPMENT OF THE WORK

THE number of county agents in the Northern and Western States increased from 542 on July 1, 1917, to 1,133 on June 30, 1918. This growth is by far the greatest of any year since this work was started in 1911 and is chiefly due to the acute realization of the need for local leadership in agriculture brought about by the war with Germany, and to the stimulation given county-agent work by the appropriations carried in the food production act of August 14, 1917:

In all, 1,257 counties are served now by county or district agents, which number includes 80 per cent of the agricultural counties and represents more than 95 per cent of the total agricultural production in 33 Northern and Western States. Only a few important agricultural counties are not now provided with agents on either a permanent or temporary basis. In addition to the regular and temporary agents appointed since the food production act became operative, 233 assistant county agents have been appointed to intensify the work in the more important counties. Forty-two assistant county-agent leaders and temporary organizers were appointed to assist in the organization campaign and to supervise the work of the new agents. Sixty-eight assistant county agents at large received temporary appointments to give special help in emergency campaigns. In all, 936 temporary and permanent employees were added to the force from August 10, 1917, to June 30, 1918. Figure 1 shows the extent of the work June 30, 1917, and figure 2 the extent June 30, 1918. Figure 3 shows the comparative development of the work based on the percentage of the agricultural counties having either regular or emergency agents.

At the time of our entrance into the war the food situation, which had been constantly becoming more difficult in Europe since 1914, assumed a threatening aspect and it became critically necessary that the United States greatly increase its surplus production. Those most intimately in touch with the situation abroad and the possibilities of our immediate contribution toward the allied cause were convinced that food production was of prime importance for us. So important, indeed, that it was well said, "Food will win the war." In every plan for the organization of agriculture to secure the greatest efficiency the need of a local leader in each agricultural county was recognized as fundamental to any assured success.

The accomplishments of the county agents, both in the North and South, in increasing food production under normal conditions, as well as their ability to organize farm communities in such a manner as to enable them to take an intelligent and effective part in the manage-

ment of their own affairs, caused the Government to look to the immediate development of the county-agent system as an imperative public need. Accordingly Congress, in the food production act, provided for

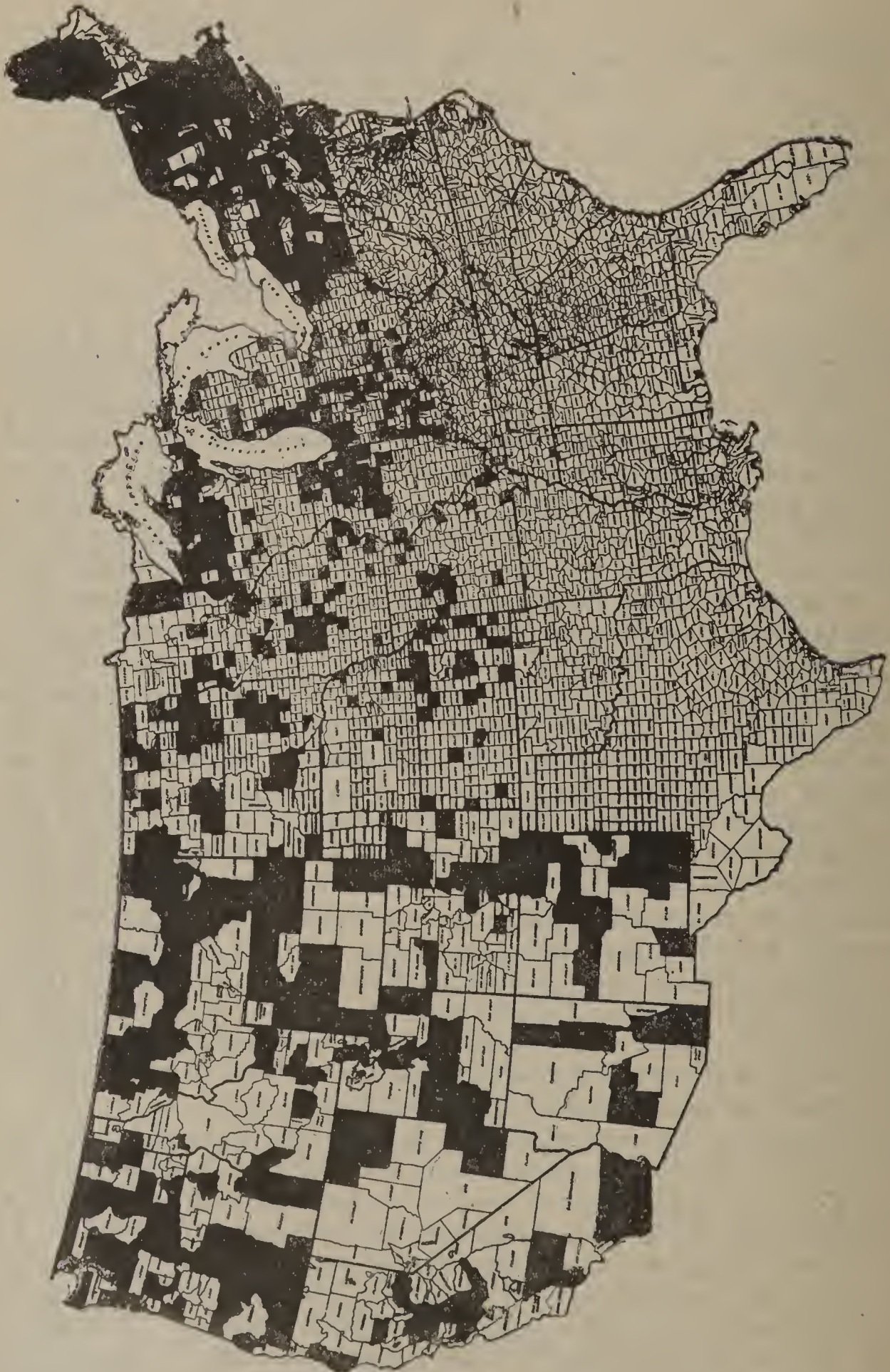


Fig. 1.—Extent of county-agent work, Northern and Western States, June 30, 1917. Area in black: Counties with agents

extending the county-agent work to each county during the fiscal year 1917-18, thereby making possible within a few months the development which the Smith-Lever Act contemplated would be consummated gradually by 1923. The appropriation, however, was not available until August 10, 1917, and consequently the county agents appointed under its provisions could not participate to an appreciable degree in the food production campaign for 1917.

To meet this condition, several of the States, including Arizona, Indiana, Michigan, Montana, New Mexico, New York, Ohio, Oregon, and Wisconsin, arranged for the temporary employment of emergency agents

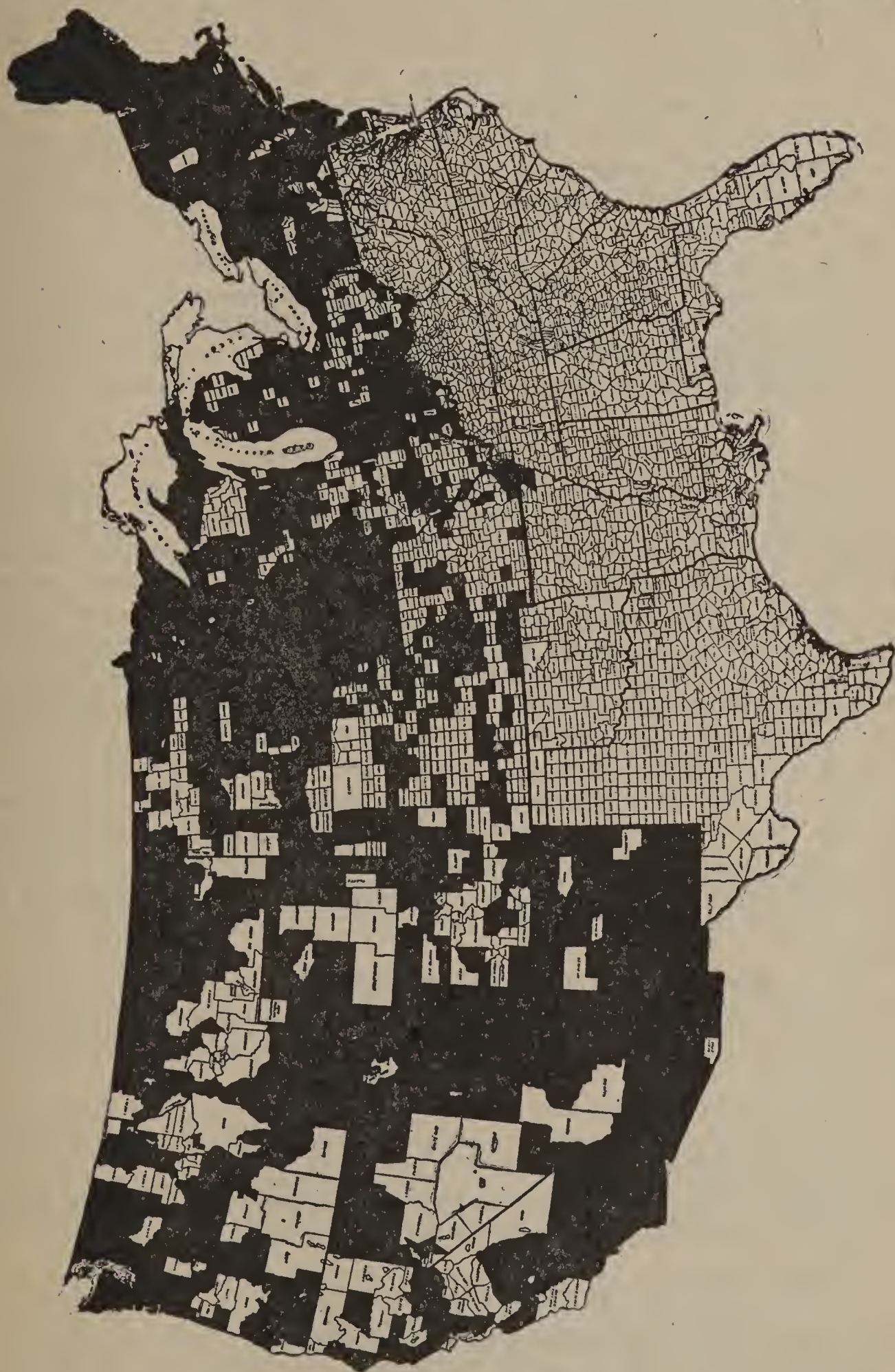


Fig. 2.—Extent of county-agent work, Northern and Western States, June 30, 1918. Area in black: Counties with agents

until the Federal funds became available. In some States, notably Montana, Wisconsin, and Ohio, members of the agricultural college faculties and the staffs of the experiment stations were released from their regular duties and assigned to counties or districts. The work performed by these emergency agents was undoubtedly of great value and did much to prepare the way for the more rapid development of

the work under Government appropriations. Several of these temporary men performed service which was so much appreciated by the farmers that they asked for their services permanently.

In anticipation of appropriations by Congress, plans were developed by the Department of Agriculture and the State agricultural colleges for the rapid organization of counties. It was thought best to start the work on a permanent basis, wherever possible, with a farm bureau in each county and with participation in financial support from county, State, and National sources. In order to make possible the immediate beginning of the work, pending the availability of State and county funds, Federal funds were applied in counties in excess of normal contributions; as a rule, not to exceed \$1,800 toward the salary and expense of the agent was supplied from Congressional appropriations. Where the work could not be started on a regular basis with local support, temporary emergency demonstration agents supported entirely from Government funds were appointed to cover two or more counties.

PLAN OF DEVELOPMENT

In States where the expansion of the work was large, temporary assistants to the county-agent leader were appointed to assist in acquainting the public with the necessity of organizing farm bureaus and appointing county agents. Some of the most effective work of this character was performed by farmers from counties where county-agent work had been in progress for several years. These farmers were usually officers of farm bureaus and could speak from an intimate personal knowledge of the work and of its value to the farmer under normal conditions. Many of the farmers participating in the organization campaigns did so at a considerable sacrifice of their own business interests. So far as possible, intensive training to these organizers was given through organization schools conducted by the county-agent leaders and assisted by representatives of the Office of Extension Work, North and West, of the U. S. Department of Agriculture.

Two general methods were followed in introducing the work in new counties:

1. The appointment of a district agent for two or more counties to look after the immediate emergency agricultural needs and to organize as soon as possible the counties to which he was assigned for regular work.

2. The systematic organization of farm bureaus in counties, before the installation of an agent, through a specially trained corps of assistants to the county-agent leader.

Both plans were successful, but by far the greater number of agents was appointed by the second method.

ORGANIZATION OF COUNTY FARM BUREAUS

The farm-bureau movement as an incident to county-agent work was making conservative development at the outbreak of the war. In all the States, with the exception of Arizona, Delaware, Indiana, Maine, Nevada, New Mexico, North Dakota, Oregon, Washington, Wisconsin, and Wyoming, county farm bureaus were organized as fundamental to successful county-agent work; county organizations had been effected in all or a part of the counties with agents; and steps had been taken to organize all new counties on a service basis,

The war gave impetus to the farm-bureau movement. It demonstrated immediately the imperative need of local associations for effectively organizing agriculture for war. If results were to be accom-

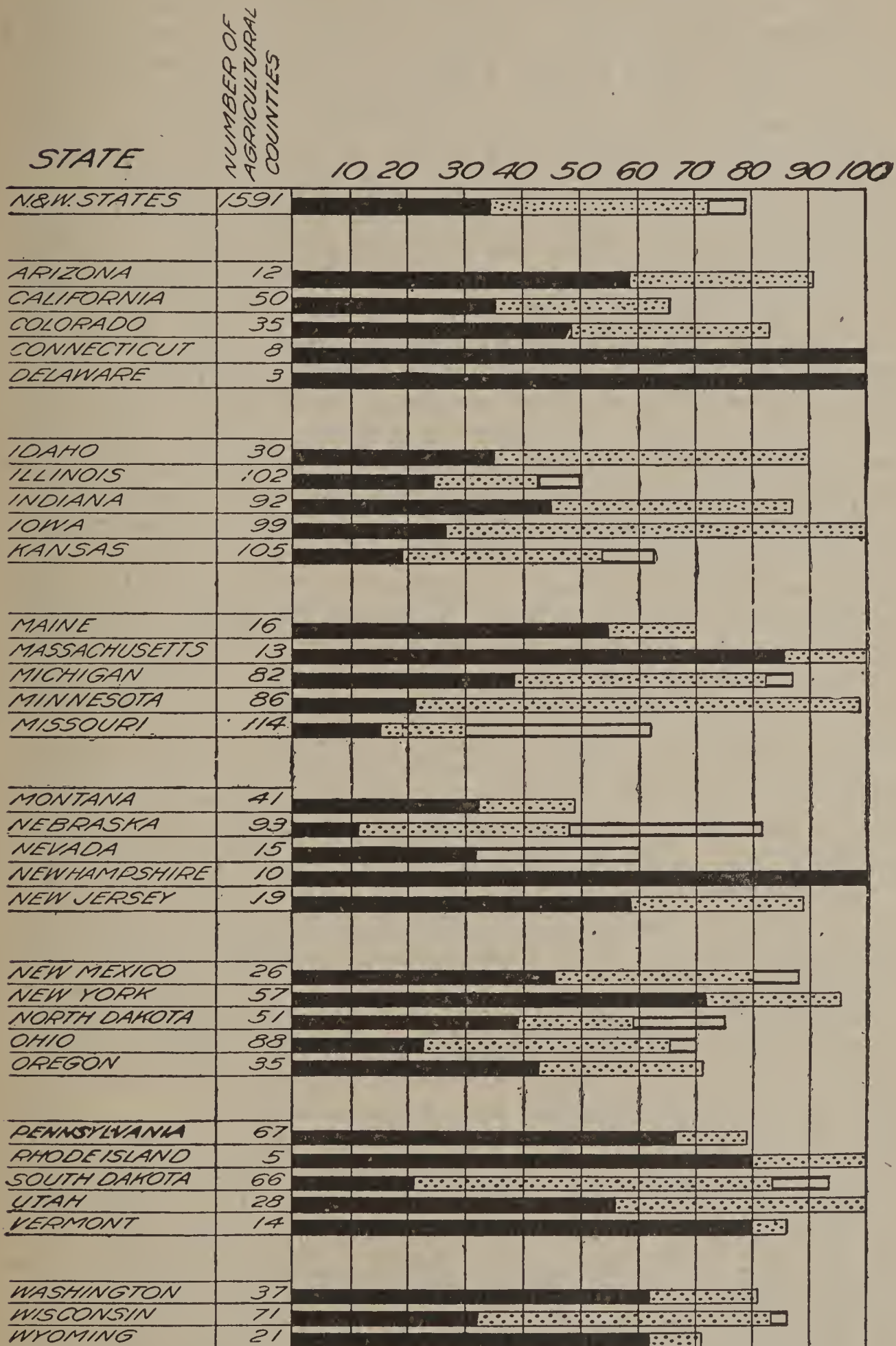


Fig. 3.—Development of county-agent work, Northern and Western States

plished quickly, a means of reaching every community and each individual had to be provided. Not only this, but it was necessary that the farmers who were being called upon to increase their agricultural output should enter sympathetically into the work and assist in adapting the National needs to the economic conditions of the farm and community in order that all might perform the most efficient service. There was danger otherwise that the patriotic impulse of the individual might result in a response to production propaganda in such a way as not only to bring disaster to the individual, but also in the end to retard, if not defeat, the cause he was trying to help.

On June 30, 1918, there were 791 county farm bureaus in the Northern and Western States, with a membership of 290,000, an increase during the year of 516 county organizations and 193,260 membership. Arizona, Delaware, Maine, Nevada, New Mexico, North Dakota, and Wyoming adopted the farm-bureau plan of organization during the year and organized all or a part of their counties on this basis. Of the four States not adopting the farm-bureau plan, Indiana, Oregon, and Washington have county federations of farmers' organizations which function in part as farm bureaus without a definite membership. Washington has just adopted the name farm bureau for its county organization. Wisconsin has no county organization for doing extension work.

With the Nation and State exerting themselves to the utmost, there was need of a stabilizing influence through which the farmers might express themselves as an organized body and cooperate effectively in meeting the needs of the Nation and the world. With the Department of Agriculture and the State agricultural college officials uniting in planning an agricultural production program, there was still needed the counsel and organized help of the great body of patriotic American farmers. Out of this need grew a new idea of a farm bureau; namely, an organization not simply to help the county agent, but to serve as the final member of the extension agencies—the Federal Department of Agriculture, the State agricultural college, and the county farm bureau. Under the pressure for needed agricultural efficiency to meet war needs the farm bureau in the North and West gained immediate recognition as an effective agency which should be made use of at once. It is a most happy augury that a war which is essentially a war for democracy should have borne as one of its first fruits a greater democracy of agricultural education whereby the farmers themselves may participate in an effective organized way in shaping the national agricultural program and in adapting it to local conditions.

Another factor helped to broaden the scope of the farm bureau. Before the war the local work had been almost wholly in the hands of the county agent; he was the sole representative of the Department and the college in the county, and by means of his individual efforts the extension work with the men, women, and young people of the county was carried on. On July 1, 1917, there were but 17 county home-demonstration agents in the 33 Northern and Western States and only an occasional county club leader. The food production act brought to each of these lines of work greatly increased resources and prospect of rapid development, and there was manifest need of one local agency or organization wherein the entire extension movement in a county might center. There was indeed some danger that these lines of extension work might develop wholly independent of each other with consequent duplication and unnecessary waste of energy and money.

This tendency manifested itself in plans for new organizations which would in a sense compete with each other for public favor and make difficult, if not impossible, that coordination of plan and cooperation of effort that form the basis of effective team work.

Extension work with rural people is essentially one piece of work in which the parts are intimately related and so interlocked that the interest of the whole must be considered in determining what is best for any of the parts. The interests of the farm, the farm home, and the productive efforts of the young people are so bound together and so interrelated that the plan of extension work must be thought of in the terms of the farm, the home, and the community rather than in terms of men, women, and children or institutional departmental organization. These ideas were endangered by any effort which sought to emphasize the relative importance of various phases of extension work. The desirability of one closely knit organization wherein the work to be done will determine its relative importance rather than any assumed importance of the local worker or equality of overhead supervision is, therefore, apparent. To meet the acute conditions imposed by the war, and in order to adapt itself to the new forces in the local extension field, the farm bureau has, during the last year, undergone a modification that not only increases its usefulness but in a measure changes its character, although its form is not essentially changed or its interior framework materially disturbed. The farm bureau has been plastic enough to adapt itself to these new conditions without the necessity of any radical reorganization.

THE "NEW" FARM BUREAU

The position of the farm bureau as the local extension unit of the agricultural college, which was pointed out in the report for 1916,* is now clearly and quite generally recognized. It is now in fact what it was then hoped it might ultimately become, the recognized agency through which the agricultural college and the department cooperate in all extension work in the county, whether that work be with farm crops, farm animals, or the problems of the home and community life. Instead of being merely an aid to the county-agent work, it has become a local institution educational in character for administering and directing the extension work in agriculture and home economics in the county and for participating in plans for the planning and execution of such work.

The people in an organized capacity have thus become full partners in all that is undertaken in the county for the improvement of agriculture and the advancement of home life. Through the farm bureau they have assumed a responsibility which properly belongs to them, that of directly participating in determining what shall be undertaken in helping to develop the plans, and in personally assisting in carrying through the agricultural improvement program. The realization of this ideal, which is the outstanding development of the year, has been made much easier by the impelling necessity of the war, and county-agent work has been steadied and strengthened because of its security in the confidence and affection of the people it was created to serve.

A county-farm bureau is an institution for the development of a county program of work in agriculture and home economics, and for

*Circular 5. Office of Extension Work North and West. (S. R. S. Doc. 60.) County Agricultural Agent Work in the Northern and Western States, Status and Results in 1916.

cooperating with State and Government agencies in the development of profitable farm management and efficient and wholesome home and community life. It is an organized agricultural democracy by means of which farmers and their families express themselves concerning all matters relating to the advancement of agricultural, home, and community life.

COUNTY PROGRAM OF WORK

A farm bureau as now conceived is based on a program of work, and it is the execution of this program that makes the organization of a farm bureau a necessity. In introducing county-agent work into a new county, it is no longer so important to tell what has been accomplished elsewhere as it is to determine what needs doing in that particular county. The determination of these community and county needs develops the necessity of going about meeting them in an organized way, and successful organized effort is dependent on qualified and skillful leadership. The county agent, the home-demonstration agent, and other local extension workers come as a necessary consequence when any county attempts to analyze and solve its problems of farm, home, and community.

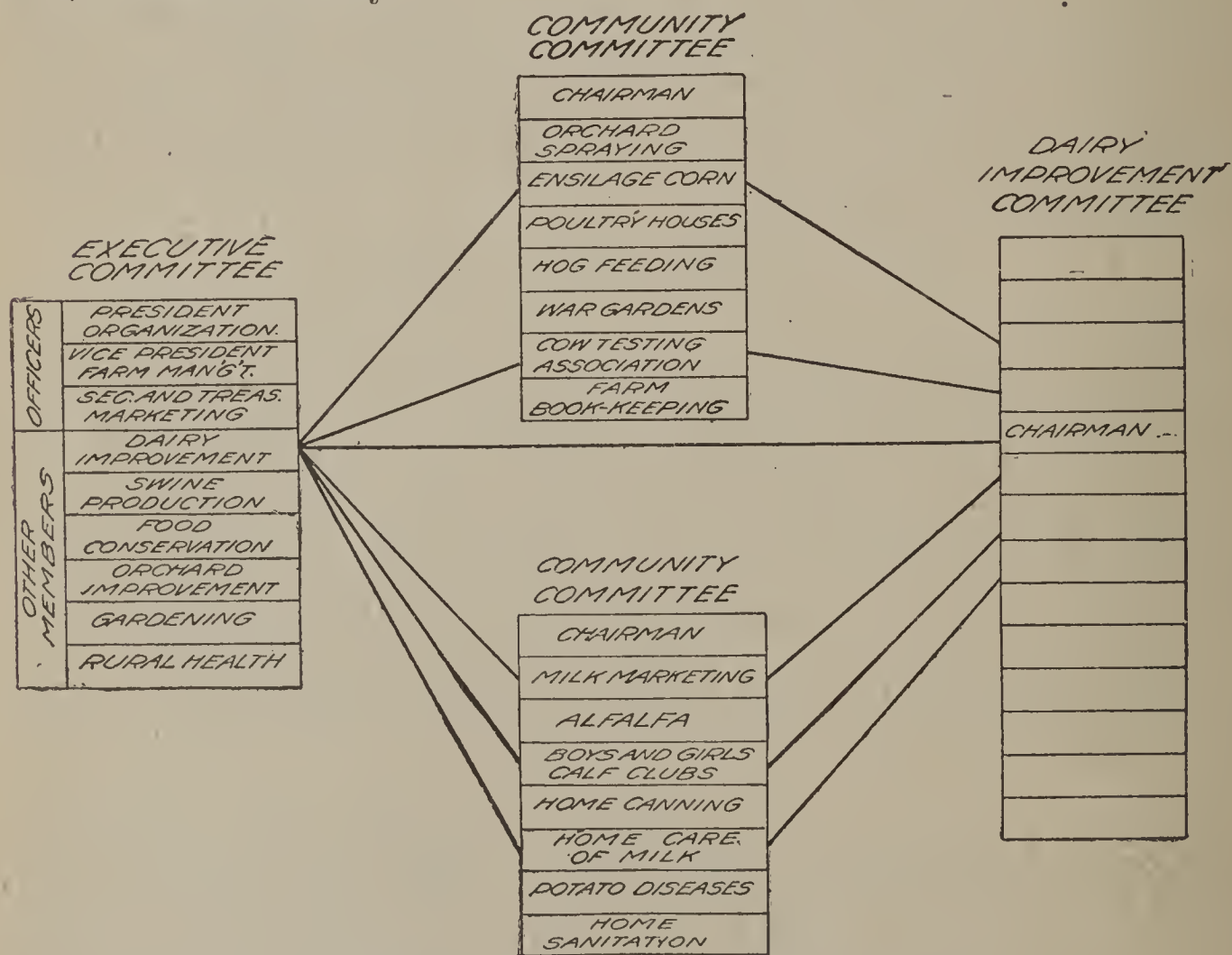


Fig. 4.—Farm-bureau organization plan based on program of work

The framework of a farm bureau as based on county and community programs is shown in figure 4. Its organization is particularly simple and contains only those elements which are necessary to carry out the program of work. It consists of—

- (1) A representative membership of at least 10 per cent of the farm owners in the county.
- (2) A community committee of men and women, each of whom is assigned as leader of some part of the community program of work.
- (3) A county executive committee of 9 to 11 persons, including the

president, vice president, and secretary-treasurer of the farm bureau. Each person on the executive committee, including the officers, is assigned as a county leader of some major part of the county program of work.

(4) Special or project committees as composed of the project leader on the executive committee and the corresponding members on the various community committees.

The farm-bureau members elect the officers and other members of the executive committee at an annual meeting, and the executive committee appoints the community committees. The special or project committees are formed automatically. That is all there is to it. The diagram (fig. 4) shows graphically the above plan with two community committees represented. The executive committee expresses the major lines of work as undertaken by the farm bureau in that particular county in that particular year.

The community committees show the way the county program of work affects that particular community. In community committee No. 1 (see fig. 4) the dairy project expresses itself as "Ensilage Corn" and "Cow Testing Associations," while in community No. 2 it expresses itself as "Boys' and Girls' Calf Clubs" and "Home Care of Milk" and "Milk Marketing." The special dairy improvement committee simply brings together the project leader on the executive committee and community leaders with common interests. It is the natural way of doing business in an organized way and is devoid of all complexities. This plan of organization adapts itself each year to the program of work adopted by the farm bureau.

FARM-BUREAU NEWS

The publication of a monthly news letter by the farm bureau has become general. The publication of this paper is usually in the hands of a committee of the farm bureau, though the county agent, home-demonstration agent, and local club workers contribute freely to its columns. The field of these papers is the dissemination of news relating to the work of the bureau. They, in a sense, correspond to the house organ of a commercial establishment, or the society paper of a lodge or church, though the circulation is not restricted to the membership of the farm bureau. These papers appear to serve a useful purpose and are increasing in number and influence. Three hundred and seventy-one farm bureaus now publish such papers. Owing to the postal regulations there is an increasing tendency to mail these papers as third-class matter rather than second-class. This permits the use of an exchange column, which is an appreciated feature of the papers.

COOPERATIVE BUSINESS OF FARM BUREAUS

As a general rule, farm bureaus do not engage directly in cooperative buying and selling for members, but as an administrative body for conducting extension work in agriculture and home economics among farmers and their families. Many of the farm bureaus have marketing committees. These committees, with the assistance of the county agent, analyze local conditions in an effort to determine if existing facilities for the purchase of farm supplies and the marketing of farm products are adequate and economically conducted. If it is found that they are not, the farm-bureau marketing committee and the county agent, with the aid of any expert assistance that may be avail-

able, may bring to the attention of the farmers and the public generally the need of increased facilities and assist in their proper organization. Where satisfactory relationship can be established with existing agencies, they are used rather than to organize new ones. A few farm bureaus have engaged directly in the purchase of fertilizers, coal, drain-tile, feed, pure-bred live stock, etc., and, while for the most part such activities have been successful and appreciated, they are believed to be foreign to the fundamental purpose of the farm bureau and a source of possible dissension and disorganization. There is also a tendency where farm bureaus engage directly in cooperative business for the members of the bureau to look upon this feature of its work as its principal function to the detriment of its educational work. Those farm bureaus have been most successful that have kept themselves free from all entangling alliances, both commercial and political, and adhered strictly to the work of directing the agencies for the improvement of farm, home, and community conditions.

STATE COUNTY-AGENT CONFERENCE

An annual conference of the county agents at the agricultural college has become a regular feature of the work in most of the States. These conferences afford opportunity for the county agents to counsel with each other in regard to methods of work and to confer with heads of departments and extension specialists at the agricultural college.

The past two years have brought a great change in the general character of these conferences. Formerly they were confined almost entirely to reports by the county agents from their respective counties and subject-matter discussion by the department heads at the college. With the development of programs of work by the farm bureaus, each county agent brings to the annual conference the recommended program of his farm bureau executive committee. The county-agent leader appoints a committee of four or five county agents who are interested in the same subjects and who meet with the head of the subject-matter department at the college directly concerned and the extension specialist, if there is one, and the whole matter is thoroughly considered. A project is then written out in detail and presented by the committee to the whole conference for further discussion, after which, if recommended by the conference, it is presented to the extension director for approval and returned by the county agent to the executive committee of the farm bureau.

In a few States delegates from the farm bureaus have attended the annual conference and participated both in the committee work and in the general discussion. This is a most excellent plan and is to be encouraged, as it brings directly to the college the viewpoint of the farmer and acquaints the farmer with the limitations as well as the possibilities of the college. Such conferences, involving the most intimate relations and the frankest discussions of proposed extension work between the college people and the farmers, broaden the outlook of both.

California, Idaho, and Utah have for the past three years conducted itinerant farm-bureau and county-agent conferences. Delegates from the farm bureau and the county agents meet at the agricultural college and after one or two days' conference there proceed in automobiles to follow a carefully worked-out itinerary through several counties where county-agent work is in progress. The daylight hours are spent

in visiting demonstrations in the counties which are explained by the county agents or project leaders of the farm bureau, and each night a meeting is held at some community center and the farm-bureau work of that county is discussed. Usually a full week has been consumed in such a traveling conference and the results have been most gratifying.

In a few States group conferences of 8 to 12 agents have been held at regular intervals. With the full development of the work, involving as it does 50 to 100 agents in some States, it is probable such district or group conferences may become highly desirable if not absolutely necessary.

RESULTS OF COUNTY-AGENT WORK

The following is a summary of the results of a few of the more important activities and projects of the county agents. The work of about 500 agents who were at work July 1, 1917, is included but not that of any of the agents appointed under the food production act.

Extending the work:

Farm visits made by county agents.....	287,323
Number of farmers calling at agent's office.....	468,514
Press articles prepared by agents.....	30,388
Circular letters mailed.....	3,063,218
Personal letters of advice written by county agents.....	747,916
Meetings held in which agent took part.....	55,432
Attendance at above meetings.....	3,059,387
Extension schools assisted.....	3,505
Enrollment at above schools.....	321,276
Meetings held with assistance of experts from college or department.....	14,545

Work with crops:

Farms selecting seed corn in fall.....	63,813
Acres planted with fall selected seed (1917).....	1,263,237
Acres planted with tested seed (1917).....	946,563
Farmers treating seed oats for smut.....	56,599
Acres sown with treated seed.....	1,162,194
Acres sown with alfalfa.....	77,755
Acres of sweet clover grown.....	26,990
Acres of soy beans grown.....	66,854
Farmers treating potatoes for disease.....	23,306
Orchards cared for.....	8,954

Work with live stock:

Registered male animals purchased.....	7,918
Cow-testing associations organized.....	182
Breeders' associations organized.....	160
Silos constructed.....	7,245
Balanced rations figured.....	10,986
Animals tested for tuberculosis.....	36,392
Animals treated for blackleg.....	197,508
Hog cholera control clubs organized.....	129
Hogs vaccinated by farmers or veterinarians on agent's advice..	204,545

Work in relation to soils:

Drainage systems planned.....	1,188
Acres involved in above plans.....	374,916
Irrigation systems planned.....	225
Acres involved in above plans.....	162,475
Soils tested for acidity (farms).....	11,163
Local sources of lime developed.....	301
Acres of hay and pasture land top-dressed.....	127,214

Work in relation to farm business:

Farm survey records taken by county agents.....	3,215
Farms modifying management as result of survey.....	3,167
Farmers keeping accounts.....	12,841
Buying or selling organizations formed.....	637
Value of business done by such organizations and others organized by agents in previous years.....	\$18,405,478
Approximate savings effected.....	\$1,419,937

In carrying out the work indicated by the above summary and other work the agents conducted 34,613 demonstrations which involved a total of 2,084,596 acres. Nearly 150,000 head of live stock were involved in definite demonstration herds, either in disease treatment, stock feeding, or otherwise. In connection with these demonstrations, the agents held 13,047 meetings attended by 401,819 persons. The saving to farmers as a direct result of the demonstrations (confined to the demonstration areas and demonstration herds alone) amounted to \$4,779,079, according to the estimates of the agents.

AGRICULTURAL CENSUS TAKEN AT OUTBREAK OF WAR

When war was declared, the extension divisions in the agricultural colleges made arrangements to take agricultural censuses in their respective States to determine what immediate steps were necessary to meet war conditions and to ascertain the help farmers would need in meeting the food requirements of the Army and our allies.

The first work of this sort was undertaken in New York and the plan developed there was followed in many details in other States. The county agents arranged community meetings in almost every township in the State. Arrangements were made for some one to address each of these meetings, outlining briefly the national situation particularly as it seemed it might affect agriculture. At each of these meetings, the suggestion of taking an agricultural census was made. A meeting of the county agents was called at the agricultural college and the plans and blanks for taking the census were carefully developed. The cooperation of the New York State Department of Education was secured and the actual taking of the data from farmers was accomplished through the cooperation of the district superintendents of schools, school teachers, and pupils.

Blanks were furnished by the New York State Food Supply Commission and were sent directly to the county agent in each county. The county agent met with the district superintendents of the county and in some cases with the teachers, and instructed them in the methods of taking the census.

The schools were closed while the census was being taken. The teachers, with the aid of a few of the older boys and girls, visited every farmer in the district and obtained the desired information. After the information had been obtained from each farmer, the teachers summarized the results for their districts on special blanks and forwarded the original blanks with a summary to the farm-bureau office. As soon as the blanks were received, the county agent with the cooperation of local bank officials, district superintendents, agricultural school teachers, high-school pupils, and others, immediately summarized all of the data for the county, and the summaries for the county were forwarded to the State county-agent leader at the agricultural college, where summaries for the entire State were made.

In many respects this was the most valuable agricultural census ever taken in the State. It was also remarkable in that it was done so cheaply and in so short a time. In the majority of counties, in less than a week after the blanks had been received in the county, complete summarized returns were forwarded to the county-agent leader's office. Returns were had from nearly every school district in the State and from about 98 per cent of the farms. The data compiled gave the extension office a good working basis upon which to estimate the agricultural resources and immediate needs of the farmers in connection with any campaign for increased crop production.

This survey showed the number of laborers needed by every farmer, the amount of surplus seed on hand, the amount of seed needed, the amount of fertilizers needed, and a number of other matters of immediate practical value. The ensuing emergency campaign was based on the results of this census, and the excellent results obtained in the State are in no small way due to it. So valuable indeed is this census considered that plans are being made to repeat it annually as a basis for assisting in determining the agricultural extension program.

Surveys along somewhat similar lines were made in several States.

HOW HOME GARDENING HELPED WIN THE WAR

Owing to the large percentage of people engaged in mining and other nonagricultural pursuits, the State of Arizona does not raise enough agricultural products to feed its own population. Some counties have been producing less than one-fifth of what they consume. Food is shipped into the State for the most part in the form of canned products. Millions of cans of such foods are consumed annually and heaps of discarded cans are a familiar feature of the landscape. Home food supply and a garden for every family have received much attention from the county agents in the past and a great deal of interest has been awakened. When the war came the supreme importance of an adequate home food supply was quickly recognized and a home-gardening campaign was put on by every county agent as well as by the emergency agents appointed by the State. The State extension director reports that in 1917 Arizona raised over 500 per cent more garden products than had been produced in any previous year.

Thousands of Arizona farmers last year for the first time ate fresh home-grown vegetables produced on their own land. Not only were families healthier and happier because of such work, but the country's food and transportation problems were simplified because every pound of food produced on an Arizona farm took the place of products which otherwise would have had to be not only produced elsewhere but transported hundreds or thousands of miles.

Typical of those who did this work was a rancher in Cochise County who was persuaded by the county agent to plant a home garden. He did so rather reluctantly, never having done so before. From less than a half acre he produced a supply of fresh vegetables for his family of five, gave liberally of his products to his friends, sold \$135 worth, canned 500 quarts, and stored a goodly supply for his own winter use. The campaign, however, was not confined to ranchers, but the mining population was interested also. Five hundred home gardens were grown under the supervision of the county agent by miners and smeltermen at Miami and produced over \$30,000 worth of foodstuffs. The

work was done during strikes, after hours, and while the mines for one cause or another were not in operation. Not only did the garden work provide these families a new source of subsistence, but by keeping them busy it made them more contented and so stimulated copper production as well as food production.

Canning demonstrations were conducted by county agents in almost every State, resulting in putting up 4,684,423 quarts of fruits and vegetables. This is in addition to the boys' and girls' canning-club work. Nearly 500,000 pounds of fruit and vegetables were dried.

GRAIN FIELDS SAVED FROM FIRE

For a number of years the grain fields of California have suffered a great annual loss from fire. No thorough system of protection had been worked out anywhere. Under the war necessity of reducing losses to the minimum the county-agent leader invited the cooperation of the Forest Service of the United States Department of Agriculture, which sent a representative to study the situation. An effective system of protection was developed through the farm bureaus whereby warnings of grain fires were given through telephone exchanges at central points. Fire wardens were appointed with headquarters in certain districts to direct the fire fighting, and all persons responding to the call were put under their orders. Fire-fighting apparatus was placed in garages in position readily to be loaded on or attached to an automobile and taken to the fire. Complete organization was effected in all the principal grain-producing counties having farm bureaus. A great many threatening fires were stopped. In Merced County alone the fire loss for 1916 was more than \$50,000; in 1917 it was less than \$20,000. Equally good results were secured in other counties. It was estimated that the value of crops saved from destruction through the adoption of this system of protection amounted to more than \$130,000. These results can be charged directly to the organization made possible by the farm bureaus, as in the nonfarm-bureau counties the fires were fully as serious and destructive as ever before.

NEW ACRES FOR FOOD PRODUCTION

In Michigan, Wisconsin, Minnesota, Oregon, and Washington there are great areas from which the valuable timber has been removed and the wild land, encumbered with stumps and saplings, has been left by the lumber companies to be exploited by land agents. Many of these cut-over lands are fertile, but the cost of clearing and making them ready for the plow often makes the purchase price seem inconsequential. In northern Wisconsin, the county agents conducted sixteen 1-week land-clearing demonstrations. Different methods of land clearing were given thorough exhibition. The average attendance at these demonstrations was more than 500 at each point. The value of such demonstrations can not be expressed in terms of acres cleared because the work is necessarily slow and goes on year after year. One measure of the fact that the demonstrations were convincing is that the sales of powder and low-grade dynamite by one concern in the territory involved increased by 460,000 pounds. Similar demonstrations were conducted in each of the above-mentioned States, bringing thousands of new acres into production.

CROPS SAVED FROM DESTRUCTION BY PESTS

The annual damage to food crops by rodent pests has been estimated by the Bureau of Biological Survey of the United States Department of Agriculture at \$150,000,000. This damage is done by pests of various kinds, but among the most destructive are jack rabbits, several species of ground squirrels, gophers, moles, and prairie dogs. To the loss caused by these must be added the destruction wrought by grasshoppers, crickets, Hessian flies, army worms, and other insect pests which is estimated by the Bureau of Entomology at more than a billion dollars. It is almost useless for the individual farmer to attempt to fight any of these pests. Only through organized community effort can they be controlled. The farm bureau with its community committees has shown itself to be the organization par excellence for controlling and exterminating them. Almost every county agent in the Great Plains, Mountain, and Pacific Coast States has organized carefully for pest destruction. The following instances are typical:

In Oregon, the Biological Survey furnished a specialist who co-operated with the county agents in explaining methods and in organizing campaigns. In eastern Oregon, the fight was waged against the jack rabbit, the ground squirrel, and the gray digger. In western Oregon, the mole and gopher demanded attention. One hundred and four meetings were held, 70 organizations took part in the work, 450,000 acres were treated with poison, \$5,000 worth of strychnine was bought in large lots (cooperatively, at a saving of 20 per cent to the user), 7,000 pounds of poisoned grain was used in Deschutes County alone, and 59,000 jack rabbits were killed at a cost of one-half cent per rabbit. The annual loss to Oregon farmers caused by these pests was more than \$2,225,000. An assistant in the Biological Survey estimated that the loss was reduced 25 per cent as a result of the organized work, or more than \$550,000 for this project alone. The mole campaign had an added interest in that the skins of this troublesome little animal have been found to rival the best European mole-skins. Boys were taught to trap moles by the most approved methods and the pelts were marketed through pools organized by the county agent. More than 5,000 skins were marketed through these pools while many more were disposed of independently, the average price per pelt being about 23 cents.

In Utah, similar campaigns were waged against rabbits, squirrels, grasshoppers, and English sparrows. In one county, 123,600 dead sparrows were actually counted by the farmers cooperating in the campaign. These birds had become so numerous that they formed dense clouds when scared from the grain fields they were destroying. The damage done in 1916 was enormous. So effective was the campaign that only small flocks could be found and the damage was reduced to a negligible amount.

In Idaho, 400,000 jack rabbits were killed through a farm-bureau campaign. It is estimated that a jack rabbit has a potential destructive value of \$1. In addition to this, 150,000 ground-squirrel holes were treated with poisoned bait, resulting in the destruction of more than 500,000 squirrels. In Kootenai County the campaign resulted in a net saving to the farmers of more than \$10,000.

In Montana, Sheridan County, farmers have long suffered from the destruction wrought by the gopher. The field agent of the Biological

Survey assisted the county agent and farm bureau in organizing the campaign. Two thousand six hundred and forty-five farmers cooperated, and 793,500 acres of land were treated with poisoned bait. The farmers estimated a saving in wheat, other grains, and grass at from 25 cents to \$5 per acre. The value of this campaign was estimated at more than \$400,000.

Similar campaigns with equally as good results were secured in North Dakota, California, and other Western States.

CREDIT FACILITIES FURNISHED

Farmers' operations are often limited by lack of working capital. Ready money is needed for the purchase of farm machinery, seeds, fertilizers, and live stock. Short-time loans at a reasonable rate of interest have been difficult to secure. In many cases farm bureaus made a careful analysis of the mobile capital needed to finance the increased farm business and through a combination of credit, secured the needed money from banks. In Jewell County, Kansas, an emergency fund was provided by the banks, and each farmer was financed by his own bank. By this means over 17,000 bushels of seeds were purchased that could not otherwise have been planted. Similar arrangements were made in many other counties. Eight thousand seven hundred and forty-one farmers were rendered assistance in connection with securing credit.

SCRUB STOCK REPLACED BY PURE BREDS

The scrub bull is still the bane of the live-stock industry. Through cooperation by banks and farm bureaus or live-stock improvement associations organized by the county agents, pure-bred bulls and cows have been introduced and the scrub is becoming a diminishing factor. Iron County, Mich., affords a fine example of this work. Three years ago the county agent ascertained that but 2 per cent of the farmers were breeding their cows to pure-bred sires. He then sought the cooperation of the banks. Nine breeders' associations were organized, and 40 pure-bred bulls and 42 pure-bred cows were purchased. An arrangement was made for the exchange of bulls by different communities, so that the period of the animal's usefulness was greatly extended. A live-stock census last year showed that about 70 per cent of the farmers were now using pure-bred bulls. This movement has spread to other counties in Michigan, and Houghton, Marquette, Mason, Menominee, Newaygo, Ontonagon, and other counties have secured similar results.

Through the cooperation by the county agents of Wisconsin and Missouri, 18 carloads of heifer calves were shipped to farmers in the latter State. The county agents last year arranged for the purchase of 7,918 pure-bred animals and for the transfer from one county to another of 3,370 animals.

MEETING THE LABOR SHORTAGE

The farm labor problem is not new. The war only emphasized and made it more acute. The building of cantonments, munitions factories, and shipyards, as well as the Army, made serious inroads on a farm-labor supply that was already insufficient. The farm bureau has afforded a simple means of ascertaining the labor needs of the county

and of effecting contact with available sources of supply. Through the community committee of the farm bureau, the central office in the county and State can be kept in immediate touch with the labor situation in every locality. Employment offices, the Boys' Working Reserve, and every other service, can be drawn upon. For the most part, however, farm bureaus have sought and found the solution of the farm-labor problem in their own counties. Release of factory hands at "peakload" periods, has helped; cooperation of town and county has met the situation in some cases; interchange of labor by the farmers in other cases. Increased use of large machinery and the cooperative purchase of machinery have reduced the demand for numbers of workers, but has increased the demand for skilled labor. The farm bureau, as a local organization of farmers, has analyzed local conditions and through the county agent has helped in adjusting the job and the means to do it.

In Jackson County, Oreg., one county agent secured the help of 300 girls in harvesting fruit. The girls donned overalls, and did a piece of work that was highly pleasing to the growers.

The prune crop of Napa County, Cal., was about to be lost from lack of pickers. A committee consisting of a representative from the farm bureau, the county agent, and a representative of the county council of defense, arranged with the superintendent of schools to have the schools close during the fruit harvest. This plan released 2,000 school children for gathering the prune crop, and it is reported that more than \$2,000,000 worth of prunes were gathered by them. To facilitate the movement of children from one orchard to another, where they might be employed, a free employment bureau was established at the county agent's office. All children willing to work were listed and distributed in such a way that the entire prune crop of the county was saved. The farm bureau has become the clearing house for farm labor in this county.

The shortage of farm labor in Idaho was very serious during 1917, and because of the unorganized condition of the farmers the situation was the more acute. In Bonneville County, the county farm bureau, in cooperation with the chamber of commerce of Idaho Falls, organized to supply the labor wants of the farmers. The president, who was the local chairman of the farm bureau, appointed a chairman in each local community to help in this problem from June 1, to October 31, and 2,140 men and 12 women were placed on the farms in Bonneville County as a result.

During the season, the farm bureaus in the Northern and Western States secured 60,036 male and 36,004 female laborers, or more than three times the number secured through all other sources combined, in the 470 counties reporting.

SPECIAL CROP PRODUCTION CAMPAIGN

The farmers were perhaps as quick as any other class to see the new responsibilities brought about by the war. While economical production had been emphasized by county agents under peace conditions, it was quickly recognized that in a war for existence profit is an ultimate and not an immediate factor. Crops had better be produced at a loss than to lose the war, and farm bureaus went about the matter of increased production in a thoroughly patriotic spirit. Some mistakes

were made through ill-considered advice. Farmers recognized that greater risks must be taken and willingly accepted the possibility of loss as a part of the war, recognizing that all must suffer and that the man who discusses profits when liberty is at stake is a poor patriot.

In the following table is summarized a few of the principal lines of war production campaigns conducted by county agents in about 500 counties:

Results of crop production campaigns, 1917-18

Crop	Estimated increased production (all campaigns)		Farmers assisted in securing seed	Bushels of seed secured for farmers
	Bushels	Tons		
Spring wheat.....	3,796,532	.....	7,298	249,483
Oats.....	3,831,510	.....	6,599	243,233
Corn.....	7,774,124	.....	19,128	110,141
Buckwheat.....	630,135	.....	13,883	55,902
Barley.....	1,445,293	.....	2,704	57,762
Potatoes.....	13,648,282	.....	40,759	441,886
Beans.....	1,029,780	.....	13,286	51,566
Winter wheat.....	(1)	.....	12,363	555,429
Rye.....	(1)	.....	5,889	131,417
Other crops.....	612,100	272,746	10,296	49,201
Total.....	32,767,756	272,746	132,205	1,946,020

Winter wheat and rye sown in 1917.

The total increase resulting from special production campaigns amounted to 3,478,982 acres. Increased live-stock production was stimulated through the breeding of 14,769 additional sows and 46,390 additional cows. More than 154,758 sheep were placed on farms, and 10,000 calves saved from slaughter.

ASSISTANCE IN MARKETING

Farmers have long been restless under a wasteful system of marketing their products. The farm bureau has played a most important part in relieving unsatisfactory conditions. Neither the farm bureau nor the county agent is or should be a direct business agency, but both are as much concerned with the development of economic methods of marketing as in economical production; indeed, the latter is often wholly dependent upon the former. The farm bureau and the county agent study and accumulate local facts and help in organizing appropriate remedies for existing evils.

In Gage County, Nebr., the farm bureau investigated the wool situation and decided to hold a cooperative wool sale. The Gage County Wool Producers' Association was organized and 11,000 pounds of wool were brought to Beatrice and pooled. Buyers came from St. Louis, Kansas City, Omaha, and Sioux City. Members of the pool received from 6 to 8 cents more per pound than farmers who did not cooperate.

The sheep industry is developing quite rapidly in the Boise Valley, Idaho, and many small flocks are being started. The owners of some of these have had but little experience in handling either sheep or wool. In order that assistance might be given in the sale of the 1917 clip, a wool pool was formed which proved to be very helpful to the small flock owners of the valley. This pool consisted of 17,552 pounds of wool which was the property of 44 ranchers. There was a 5 per cent shrinkage during the time in storage, which amounted to 888 pounds, leaving 16,664, which sold for 63 cents, amounting to \$10,498.32, less \$150 for storage and insurance, leaving \$10,348.32. The selling price of wool during this time ranged from 40 cents to 50 cents per pound,

the average price being about 47½ cents, consequently the pool resulted in a net gain of \$14,329 to the ranchers. Two men having about 5,000 pounds of wool each, which was not consigned to the pool, sold from their ranches at 50 cents. Allowing 5 per cent shrinkage and 1 cent per pound for storage in the pool, these men each lost \$445 by selling individually.

In a similar way, the farm bureaus of Box Butte County, Nebr., determined that there was too much margin in the handling of potatoes. The Bureau of Markets of the United States Department of Agriculture was asked to establish a market news service in the county, through which every farmer would receive a daily market bulletin. When the service began, the growers were getting 60 cents per bushel for potatoes at Alliance, while jobbers at Omaha were paying \$1.10 per bushel. Within two weeks after the service was inaugurated, the farmers were receiving \$1.04, while the jobbers were still paying \$1.10.

Live-stock shipping associations in Minnesota organized by county agents did a business of \$4,191,438. There were organized by county agents during the year in the 33 Northern and Western States, 367 purchasing and marketing associations, which did a business amounting to more than \$18,000,000 and effected a saving of nearly \$1,500,000 to the farmers.

LIVE STOCK SAVED FROM LOSS BY DISEASE

The farm bureau affords an efficient organized means of combating contagious live-stock diseases. The treatment of individual cases, or sporadic attempts at eradication methods can have little permanent value. While the county agents are not graduate veterinarians, their work at the agricultural colleges has given them more specific information in regard to the nature of live-stock diseases and their remedies than is possessed by the general public, and they are thus in a position to deal intelligently in organized methods for such work and in making demonstrations of effective measures. They do not in any way supplant the professional veterinarian or interfere with his practice. They do not engage in promiscuous treatment of sick animals, the attitude of the county agent toward all work of this class being that of a demonstrator, to show the farmers either how to do the work themselves, or the necessity of calling a skilled veterinarian in time.

The county agent properly assists in organizing methods of alleviating live-stock diseases and demonstrating to farmers the proper treatment. The following are typical instances of the agent's connection with such work.

The county agent in Louisa County, Iowa, paid particular attention in 1917 to hog cholera, which had caused great loss to farmers in previous years. It was ascertained that during 1916, 10.3 per cent of all the swine in the county were lost from this disease. In order to establish the value of serum and virus, it was thought best to follow up the vaccination work very closely in 1917, and have the records in such shape that they would clearly show the results obtained from vaccination in this county. Two steps were planned in this connection: (1) The reporting of all herds treated by veterinarians; and (2) the reporting of conditions of herds by owners during at least four weeks following treatment. The cooperation of the seven veterinarians in the county was secured. The publicity campaign was carried on through a series of articles in the newspapers of the county and circular

letters mailed to each farmer, showing the losses from hog cholera in the county for the past four years and giving the reasons for vaccination and control methods, particularly through the organization of the community committee to report on the number of cases in each community. When the campaign was undertaken there were 47 known centers of infection. Notwithstanding this, the loss in 1917 did not reach 2 per cent. It was estimated that the value of the hogs saved above the loss of 1916 was \$122,880.

Blackleg infection was found on 140 farms in Gage County, Nebr. Calf vaccination demonstrations were arranged by the county agent and farmers taught by the agent to do the work. The loss was reduced to less than 1 per cent. In one area where 27 calves had died in two months, a blackleg club was organized by the county agent. The members vaccinate their calves systematically every six months, making it a regular piece of work, the men helping each other as they do in harvesting. A careful estimate shows that the blackleg control work has saved the county approximately \$22,500.

In connection with their work in 1917, the agents assisted in testing 36,392 animals for tuberculosis, helped the farmers in the treatment of 197,508 calves for blackleg, and secured vaccination by veterinarians or the farmers of 204,545 hogs. The agents personally vaccinated, as demonstrations, 31,321 hogs, and 129 hog-cholera clubs were organized.

SAVING A BAD SEED-CORN SITUATION

In the spring of 1918 the corn-belt States faced an unprecedented seed-corn situation. Early frosts in the fall of 1917 had caught much of the corn in an immature condition. Michigan, Wisconsin, North Dakota, South Dakota, northern Iowa, Illinois, Indiana, and Ohio were specially affected. Steps were taken immediately by the county agents to locate all fields where the corn had matured and to see that the crop was saved so far as possible for seed. The farm bureaus in some instances bought the corn outright and placed in it storage for redistribution the following spring. The hot weather later caused much of this corn to deteriorate so that early tests were unreliable. The situation in the spring of 1918 became alarming. Every corn-belt State organized its extension forces to meet the situation and undertook to ascertain the exact conditions in each county and to make plans to provide the needed seed. Assistant county agents were appointed to help in this campaign. While the details of these campaigns differed somewhat in the several States the methods followed in Indiana are typical and illustrate how a State with a complete county-agent system quickly and effectively met a threatened disaster.

The county agents were called together in the early winter for conference and one of the assistant county-agent leaders was put in charge of the seed-corn campaign. A survey was worked out and put into the hands of each farmer. Two hundred and seventy-five thousand (more than a ton) of these cards were sent out. A seed-corn organization consisted of a State leader (county-agent leader), a district leader (one of the county agents in each group of six or eight counties) who had charge of the campaign, county leaders (county agents), and farmer leaders in each township and school district in the State. The governor of the State was induced to send out a proclamation to each township trustee, and the cooperation of school superintendents, county councils

of defense, bank associations, and all rural organizations, was secured. Community and county meetings were held by the county agents and assistant county agents, a special seed-corn week was held, and interest was aroused throughout the entire State.

It was shown by the survey card that it would require somewhat more than 1,000,000 bushels of seed corn to put in the Indiana crop. The survey also disclosed that there was about 500,000 bushels of the 1916 crop still in the hands of farmers. This corn was in good condition, and for the most part was commandeered. Community testers were established in many counties, 50 cents per bushel being charged for testing. Some of these testers had a capacity of more than 1,000 bushels of corn per week. After the best possible use of the home supply had been made, it was still found that nearly 40 per cent of the seed needed must be secured from outside of the State. The corn expert, acting under the direction of the county-agent leader, was sent to Missouri, Pennsylvania, and New Jersey. With the help of the Seed Stocks Committee of the Department of Agriculture, sound seed corn of good germinating quality, adapted to Indiana conditions, was located and 40 carloads were bought and shipped to various distributing centers in the State. Profiteering was prevented and good seed corn was made available at a reasonable price to every farmer in the State. As a result, Indiana in 1918 has the best stand of corn that it has had in years. The same is true of the stand in probably all of the corn-belt States.

Equally as good results were secured in Ohio, Illinois, and Iowa. The situation in the Northern States of the corn-belt was more difficult owing to the impossibility of locating seed corn adapted to the short season, but the best possible use was made of the home supply.

The service of the county agent in organizing and attending to the details of these campaigns is invaluable. In saving America's most important crop in a critical year, it may easily be of world-wide significance and its immediate value and importance to the farmers would pay for the entire cost of the system for a quarter of a century.

ADAPTING THE REGULAR PROGRAM TO WAR CONDITIONS

County-agent work, as a part of the county's agricultural program for the year, is ordinarily planned in December or January following the annual meeting of the farm bureaus and the extension conference at the State agricultural colleges. The plans for the work in 1917 were, therefore, well organized when war was declared, and much readjustment was necessary. From the very outbreak of the war the county agents have considered themselves wholly at the service of the Nation; and, while they were willing to make any revision of plans that might be advantageous from a national or world standpoint, it is a tribute to the constructive and far-sighted vision of the farm-bureau committees and extension agencies that very little modification of existing plans was found necessary. Such modifications as were made were for the most part the giving of a war significance to regular farm-bureau projects. It was manifestly not wise seriously to interrupt well-established rotation systems or farm practice. What was needed and what was done was to adapt the Nation's agricultural program to the local situation

and to find how each community could best do its part to contribute most to the desired results. This usually meant the increased production of those food crops already being produced rather than the introduction of new ones.

SUMMARY

The outbreak of the war found the county-agent system of extension work established in about one-third of the agricultural counties of the North and West. Under the impetus given by its recognition as a war necessity, within nine months it embraced more than four-fifths of the counties and reached 95 per cent of the total agricultural production. Farm bureaus have increased in number and influence and the admission of women to membership on equal terms with men with the recognition of home economics as a part of the program has made them truly representative of the rural people in their efforts to improve farm and home conditions.

County agents, though strongly stirred by the Nation's call to arms, have listened to the counsel of State and Nation and in the main have stayed with the work, though there are 190 men who were serving as county agents or assistants, in the Northern and Western States, who are now in military service. It has been harder to stay than to go, and the agents in staying have in a spirit of self-sacrifice heeded the President's injunction that no man should choose himself where he would serve, but gladly do that which would make his serving account for most. It is most fortunate that the county-agent system was in process of development at the outbreak of the war. It is difficult to conceive how the Nation's agricultural war program could have been carried out without the county agents. They are the agricultural leaders to whom everyone has turned for counsel, organization, and action in almost every phase of war work as it touches the rural people. The Food Administration, the Railway Administration, the Fuel Administration, the Farm-Loan Board, the Treasury Department, the War Department, the Labor Department, National and State Councils of Defense, State departments of agriculture and education, in addition to almost every office and bureau of the United States Department of Agriculture and the State agricultural colleges, have called on them repeatedly for help. They have conducted agricultural censuses, labor and food surveys, located horses for the Army, assisted in the distribution of potash and nitrates, organized farm-loan associations, directed the distribution of farm help, provided seed and labor bureaus, conducted the National drives for increased wheat, rye, corn and meat production, assisted in the classification of registrants for the military service and helped in the Liberty Loan, Red Cross, Y. M. C. A., Knights of Columbus, and other campaigns. They have furnished statistics and data to hundreds of agencies and have been the point of contact for all who desire to reach the rural people. By no means least of all, they have been one of the most effective agencies in acquainting the country people with the causes of the war and what it means to America. In village halls, in country school-houses and churches, at farm picnics, whenever country people came together, they have told in simple language the horror of the Hun and the justice of our stand for human liberty and righteousness.